

**BEFORE THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA
DOCKET NO. 2018-318-E**

In the Matter of)	
)	REBUTTAL TESTIMONY OF
Application of Duke Energy Progress, LLC For)	STEVEN B. WHEELER
Adjustments in Electric Rate Schedules and)	FOR DUKE ENERGY
Tariffs and Request for an Accounting Order)	PROGRESS, LLC

I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Steven B. Wheeler, P.E., and my business address is 411 Fayetteville
3 Street, Raleigh, North Carolina 27612.

4 **Q. ARE YOU THE SAME STEVEN B. WHEELER THAT PREVIOUSLY**
5 **FILED DIRECT TESTIMONY IN THIS PROCEEDING?**

6 A. Yes, I filed direct testimony supporting Duke Energy Progress LLC's ("DE
7 Progress" or "the Company") overall rate design and sponsoring the proposed
8 tariffs in this proceeding.

9

II. PURPOSE AND SCOPE

10
11 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS**
12 **PROCEEDING?**

13 My rebuttal testimony responds to:

- 14 • Basic Facilities Charge - The testimony of Office of Regulatory Staff Witness
15 Michael Seaman-Huynh; Vote Solar Witness Justin R. Barnes; NAACP, SC
16 Coastal Conservation League, and Upstate Forever Witnesses Jonathan Wallach
17 and John Howat regarding the Company's proposed increase in the Basic
18 Facilities Charge;
- 19 • Rate Design Proposal - Witness Seaman-Huynh's testimony regarding requested
20 changes to TOU and other rate structures and Witness Howat regarding the
21 residential schedule declining block energy structure;

- 1 • Vote Solar Witness Justin R. Barnes’ testimony regarding the Company’s AMI-
2 enabled rate designs;
- 3 • Excess Deferred Income Tax Rider (“EDIT”) - Vote Solar Witness Justin R.
4 Barnes’ testimony regarding refunding of revenues under the EDIT Rider;
- 5 • and the testimony of South Carolina Energy Users Committee Witness Kevin
6 O’Donnell regarding the Company’s Real Time Pricing rates.

7 **III. REBUTTAL TESTIMONY**

8 **BASIC FACILITIES CHARGE**

9 **Q. WHAT IS THE COMPANY’S RECOMMENDED ADJUSTMENT TO THE**
10 **RESIDENTIAL BASIC FACILITIES CHARGE?**

11 **A.** DE Progress proposed changing the Residential Basic Facilities Charge from \$9.06
12 to \$29.00 to reflect full cost recovery of the customer component identified in the
13 unit cost study.

14 **Q. WHY IS THIS INCREASE APPROPRIATE?**

15 **A.** It is important that the Company’s rates reflect cost causation to minimize
16 subsidization of customers within the rate class. Customer-related costs are
17 unaffected by changes in customer consumption and therefore should be paid by all
18 customers, regardless of their consumption.

19 **Q. WHAT IS THE HARM CAUSED BY SETTING THE BASIC FACILITIES**
20 **CHARGE BELOW ITS COST BASIS?**

21 **A.** Residential customer-related costs not recovered in the Basic Facilities Charge are
22 shifted to energy rates causing high usage customers to subsidize lower usage
23 customers. Failing to properly recover customer-related costs via a fixed monthly

1 charge provides an inappropriate price signal to customers and fails to adequately
2 reflect cost causation. Shifting customer-related costs to the kWh energy rate
3 further exacerbates this concern and over-compensates energy efficiency and
4 distributed generation for the costs avoided by their actions.

5 **Q. OFFICE OF REGULATORY WITNESS MICHAEL SEAMAN-HUYNH**
6 **STATES THAT THE RESIDENTIAL AND SMALL GENERAL SERVICE**
7 **BASIC FACILITIES CHARGES SHOULD RECOVER NO MORE THAN**
8 **25% OF THE APPROVED REVENUE INCREASE ASSIGNED TO THAT**
9 **CUSTOMER CLASS. DO YOU AGREE?**

10 **A.** No. An economically efficient rate design minimizes subsidization between
11 customers and customer classes, and the Company has reflected this principle in its
12 proposal. While Witness Seaman-Huynh's recommendation moves to reduce
13 subsidization, the Company is concerned that deferring a larger increase at this time
14 merely shifts the need to increase the Basic Facilities Charge to a future rate case
15 proceeding.

16 **Q. SC NAACP, CCL, AND UPSTATE FOREVER WITNESS HOWAT**
17 **ARGUES THAT THE PROPOSED BASIC FACILITIES CHARGE IS**
18 **HIGHER THAN OTHER UTILITIES AND IS THEREFORE**
19 **INAPPROPRIATE. IS THIS A VALID COMPARISON?**

20 **A.** No. The Company's rates should be set based upon a careful examination of its
21 cost of service and an allocation of those costs to the South Carolina jurisdiction
22 and rate classes based upon methodologies found appropriate by this Commission.
23 In this proceeding, the Company has examined its costs and identified customer-

1 related costs in excess of its current Basic Facilities Charge. Other utilities' costs
2 and rates are not relevant to a determination of DE Progress' rates.

3 **Q. ARE VOTE SOLAR WITNESS BARNES AND NAACP, SC COASTAL**
4 **CONSERVATION LEAGUE AND UPSTATE FOREVER WITNESS**
5 **WALLACH CORRECT IN ASSERTING THAT AN INCREASE IN THE**
6 **RESIDENTIAL BASIC FACILITIES CHARGE DISCOURAGES**
7 **DISTRIBUTED GENERATION AND ENERGY EFFICIENCY?**

8 **A.** Yes, but overstating the Basic Facilities Charge discourages prudent investment in
9 distributed generation and energy efficiency. DE Progress offers numerous DSM
10 and EE programs that encourage customers to use electricity efficiently and wisely.
11 The purpose of rate design is to fairly recover the Company's costs from its
12 customers based upon principles of cost causation, not to necessarily encourage
13 energy efficiency and distributed generation simply for their own sake. The
14 proposed increase to the Basic Facilities Charge eliminates a false savings that
15 exists when customers make imprudent investments based on inaccurate price
16 signals.

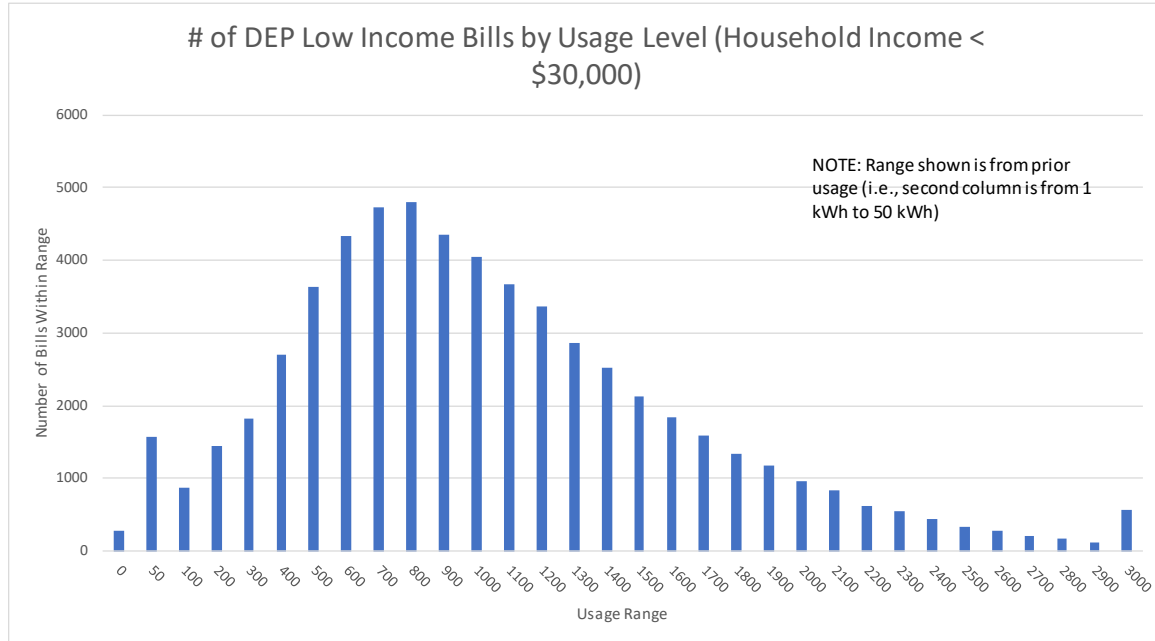
17 **Q. DO YOU AGREE WITH WITNESSES BARNES, HOWAT AND**
18 **WALLACH THAT THE INCREASE IN THE BASIC FACILITIES**
19 **CHARGE SHOULD BE LIMITED TO THE PERCENT INCREASE**
20 **APPROVED BY THE COMMISSION FOR EACH SPECIFIC RATE**
21 **CLASS?**

22 **A.** No. This approach does not follow the principles of cost causation and recovering
23 fixed costs via a kWh energy charge has the following detrimental consequences:

1 1) high usage customers subsidize low usage customers; 2) low use customers do
2 not pay the full cost of the utility plant installed to serve them; 3) it does not
3 provide an accurate price signal regarding the Company's costs upon which
4 customers can make economic decisions to make investments that reduce kWh
5 consumption; and 4) it will forever delay appropriate recovery of the Company's
6 customer-related costs through the Basic Facilities Charge.

7 **Q. DOES THE PROPOSED BASIC FACILITIES CHARGE**
8 **DISPROPORTIONATELY HARM LOW-INCOME CUSTOMERS AS**
9 **ARGUED BY SC NAACP, CCL, AND UPSTATE FOREVER WITNESS**
10 **HOWAT?**

11 **A.** No. Below, is a chart that illustrates the number of South Carolina DE Progress'
12 customer bills by usage levels for customers with household income below
13 \$30,000. These charts demonstrate that low-income customers' electricity usage is
14 quite diverse with many customers having usage above the South Carolina
15 residential monthly average of 1,214 kWh. In addition, a significant number of low
16 income customers are clustered around the 600-1,100 monthly average kWh.



1 Furthermore, since the total number of low usage customers greatly exceeds the
2 number of low-income customers identified above obviously there are reasons
3 other than income for low usage, such as customers with second homes, vacant
4 homes that are for sale and customers with solar panels. The Company is mindful
5 of the impact of any rate increase on our customers, particularly low-income
6 customers; however, the Company does not design rates based upon customer
7 incomes as advocated by Witness Howat, but rather applies cost causation
8 principles to the extent practical. There are other means of addressing the financial
9 needs of low-income customers which are more effective than biasing the rate
10 design, such as Company, state and local programs. For example, energy efficiency
11 programs, such as the Company's Residential Income Qualified Energy Efficiency
12 and Weatherization Assistance Program, aid low-income customers in reducing
13 their consumption of energy at no cost to the consumer. Other Company programs,

1 such as the Equal Payment Plan, EPP WeatherProtect Pilot, and payment
2 arrangements, are available to assist all customers in managing their cost for
3 electricity. The Energy Neighborhood Fund is promoted by the Company and
4 raises funds for local aid agencies to assist low-income customers. These initiatives
5 are more effective than biasing the rate design to aid low-usage customers. Finally,
6 as mentioned earlier, inappropriately pricing the Basic Facilities Charge below cost
7 over-addresses the alleged problem, because all low usage customers benefit, not
8 just low-income customers.

9 **Q. SEVERAL INTERVENORS ARE OPPOSED TO THE PROPOSED**
10 **INCREASE IN THE BASIC FACILITIES CHARGE, ALLEGING THAT**
11 **THE COSTS IDENTIFIED BY THE MINIMUM SYSTEM**
12 **METHODOLOGY ARE NOT CUSTOMER COSTS AND SHOULD NOT**
13 **BE INCLUDED IN THE BASIC FACILITIES CHARGE. PLEASE**
14 **RESPOND TO THAT ALLEGATION.**

15 **A.** The rates and rate design supported by my testimony are based upon the cost of
16 service studies, including the minimum system cost study, performed by the
17 Company and accepted by the Office of Regulatory Staff. The costs in controversy
18 are distribution facilities costs. The Company's cost of service studies indicate that
19 these costs are customer-related costs that don't vary with consumption and
20 therefore I designed the Basic Facilities Charge to recover them. If the Commission
21 finds that they are not properly grouped as customer-related costs, then, as Vote
22 Solar Witness Barnes and NAACP, SC Coastal Conservation League, and Upstate
23 Forever Witness Wallach state in their direct testimony, these costs should be

1 treated as demand-related costs. Therefore, these costs should be recovered via a
2 demand charge since they don't vary with energy usage.

3 **Q. RATE SCHEDULE RES, THE COMPANY'S PRIMARY RESIDENTIAL**
4 **RATE SCHEDULE, DOES NOT HAVE A DEMAND COMPONENT**
5 **RATHER IT ONLY HAS A BASIC FACILITIES CHARGE AND A KWH**
6 **CHARGE. IF THE COMMISSION DECIDES THE COSTS IN QUESTION**
7 **ARE NOT CUSTOMER-RELATED COSTS, HOW SHOULD THESE**
8 **COSTS BE RECOVERED FROM CUSTOMERS ON RATE SCHEDULE**
9 **RES?**

10 **A.** As Witnesses Barnes and Wallach explain in their direct testimony the distribution
11 facilities costs in question represent poles, conductors, conduit, and transformers.
12 These costs are fixed in nature like the metering, service drop and billing costs
13 Witnesses Barnes and Wallach support being recovered through the Basic Facilities
14 Charge, and do not vary with customer consumption. Importantly, they are unlike
15 variable operations and maintenance costs and fuel costs which vary directly with
16 energy consumption and are properly recovered via the volumetric kWh rate. Thus,
17 recovering them via a kWh energy charge provides an incorrect pricing signal.

18 **Q. DO THE COMPANY'S PROPOSED KWH RATES FOR SCHEDULE RES**
19 **CUSTOMERS INCLUDE COST RECOVERY FOR SOME DISTRIBUTION**
20 **FACILITIES DEMAND RELATED COSTS THAT WERE NOT**
21 **IDENTIFIED BY THE MINIMUM SYSTEM STUDY AS CUSTOMER-**
22 **RELATED COSTS?**

23 **A.** Yes. However, doing so sends an incorrect pricing signal.

1 **Q. DOES THE COMPANY HAVE A PROPOSAL TO ADDRESS THIS**
2 **RATEMAKING CONUNDRUM?**

3 **A.** Yes. In the next general rate case proceeding, the Company should revise its Rate
4 Schedule RES to include a demand component rate to recover all non-minimum
5 system distribution costs. This design would better reflect cost causation principles.

6 **Q. SEVERAL INTERVENORS AND THE ORS EXPRESSED CONCERN**
7 **WITH THE MAGNITUDE OF THE PROPOSED INCREASE IN THE**
8 **BASIC FACILITIES CHARGE FOR RESIDENTIAL CUSTOMERS, AND**
9 **RECOMMENDED THE COMPANY UTILIZE THE PRINCIPLE OF**
10 **GRADUALISM IN ESTABLISHING THE BASIC FACILITIES CHARGE.**
11 **DO YOU AGREE?**

12 **A.** The Company understands these concerns and believes there is merit in their
13 position. The Company's proposal sought to eliminate the current subsidy and
14 immediately provide customers with more accurate price signals. If the
15 Commission determines that it is appropriate to more slowly phase-in addressing
16 this issue over multiple rate cases, a smaller increase would be appropriate. A
17 possible approach to phasing in the correction was offered by the Company in its
18 recent North Carolina rate case¹ where the increase in the Basic Facilities Charge
19 rate was set equal to 50% of the difference between the current rate and the cost
20 basis. Adopting this approach would reduce the proposed Basic Facilities Charge
21 to \$19.03.

¹ See Wheeler Exhibit No. 1 in North Carolina Utilities Commission Docket No. E-2, Sub 1142.

1 **Q. DO YOU CONCUR WITH WITNESS SEAMAN-HUYNH'S**
2 **RECOMMENDATION TO LIMIT THE INCREASE TO THE BASIC**
3 **FACILITIES CHARGE FOR THE SMALL GENERAL SERVICE**
4 **SCHEDULE?**

5 **A.** No. While Witness Seaman-Huynh recommends that the Basic Facilities Charge
6 for all other rate classes be increased to reflect full customer-related costs, he
7 recommends that the Schedule SGS Basic Facilities Charge be increased by no
8 greater than 25% of the overall increased revenue, matching his recommendation
9 for the residential rate. For the same reasons as cited for the residential schedule, I
10 recommend that the rate be set to reflect the full customer-related cost or by 50%
11 of the difference between the current rate and the cost basis, if the Commission
12 decides to more slowly phase-in addressing this issue over multiple rate cases.

13 **Q. WITNESS HOWAT ALSO SEEKS CHANGES TO THE COMPANY'S**
14 **ENERGY EFFICIENCY PROGRAMS TARGETING LOW-INCOME**
15 **CUSTOMERS. ARE SUCH PROGRAMS INCLUDED IN THE**
16 **COMPANY'S PROPOSAL?**

17 **A.** No. Revenues for energy efficiency programs are intentionally excluded from rate
18 case revenues since they are considered annually in a demand-side management
19 and energy efficiency ("DSM/EE") cost recovery proceeding. Any
20 recommendations regarding such matters are more appropriately considered in
21 those proceedings.

1 **Q. IN DESIGNING PROPOSED CUSTOMER RATES TO GENERATE DE**
2 **PROGRESS' REVENUE REQUIREMENT, IS IT APPROPRIATE TO**
3 **CONSIDER ENERGY EFFICIENCY PROGRAMS THAT HAVE NOT**
4 **BEEN APPROVED BY THE COMMISSION AS PROPOSED BY WITNESS**
5 **HOWAT?**

6 **A.** No. Rate design involves allocating a utility's actual generation, transmission,
7 distribution and customer costs determined by a cost of service study to the utility's
8 customer classes and developing rates to recover those costs. The issue of whether
9 DE Progress should propose additional energy efficiency programs as proposed by
10 witness Howat should be addressed in DE Progress' annual DSM/EE proceeding.

11 **RATE DESIGN PROPOSALS**

12 **Q. PLEASE DESCRIBE ORS WITNESS SEAMAN-HUYNH'S**
13 **RECOMMENDED CHANGES TO THE COMPANY'S RATE DESIGN**
14 **PROPOSAL?**

15 **A.** The Company has recommended several changes to its time-of-use and other rate
16 designs to reduce the emphasis on summer pricing, to better reflect current marginal
17 cost relationships and to better reflect cost causation. I understand that Witness
18 Seaman-Huynh is recommending that these changes be deferred until the Company
19 files its innovative rate structures that are enabled with the deployment of the Smart
20 Meter and Customer Connect billing system infrastructures.

1 **Q. DO YOU AGREE WITH DELAYING THE COMPANY'S**
2 **RECOMMENDED CHANGES?**

3 **A.** No. While the Company understands the ORS's position attempts to maintain
4 current designs and minimizes disproportionate bill impacts for customers served
5 under each schedule, the Company's changes are not dependent upon alignment
6 with a future rate design, but are intended to reflect current non-disputed cost
7 trends. Continuing with the current rate emphasis encouraging winter load is
8 contrary to the Company's adoption of a winter planning criteria for resource
9 planning purposes. Also, marginal energy cost trends indicate a significant
10 narrowing of the difference in marginal energy cost during on-peak and off-peak
11 periods. The Company's recommendation reflects these changing trends.

12 **Q. PLEASE DESCRIBE THE ORS CHANGES TO THE COMPANY'S RATE**
13 **DESIGN?**

14 **A.** The Company's recommended changes that the ORS suggests not be implemented
15 include:

16 1. Under Residential Service Schedule RES, the ORS recommends retaining the
17 current one cent per kWh declining block rate in the nonsummer months. The
18 Company recommends reducing it to 0.5 cents per kWh to reflect its current winter
19 peak planning criteria since winter load additions, not summer, now primarily
20 influence generation resource additions. Consequently, higher rates should apply
21 in the winter months to more properly price the impact of winter peak load
22 additions. Further reduction in the current summer pricing emphasis should be
23 considered in future rate cases.

1 2. Under Residential Service Time-of-Use Schedule R-TOUD, the ORS
2 recommends retaining the current price relationships between summer and
3 nonsummer demand rates and on-peak and off-peak energy rates. The Company's
4 proposed design reduces the difference between summer and nonsummer demand
5 rates to start to shift the price emphasis toward winter demands that drive
6 generation additions, and reduces the difference between on-peak and off-peak
7 energy rates to reflect the narrowing of the difference in current on-peak and off-
8 peak marginal energy costs.

9 3. Under Small General Service Time-of-Use Schedule SGS-TOU, the ORS
10 recommends retaining the current price relationships between summer and
11 nonsummer demand rates and on-peak and off-peak energy rates. For the same
12 reasons cited above for Schedule R-TOUD, the Company's proposed design
13 reduces the difference between summer and nonsummer demand rates and reduces
14 the difference between on-peak and off-peak energy rates.

15 4. Under Schedule SGS-TOU and Large General Service Time-of-Use Schedule
16 LGS-TOU, the ORS is recommending that the off-peak excess demand charge be
17 increased by the same percentage as other rates under the schedule. The off-peak
18 excess demand charge applies to the customer's highest demand registered during
19 off-peak hours to the extent it exceeds the on-peak demand in the billing month.
20 It is priced to recover distribution-related costs to ensure that customers pay their
21 fair share of costs for extending lines and circuits to their premises. The
22 recommended rate is set to match the distribution-related unit cost from the

1 functionalized cost of service study. The billing rate should be set to match the
2 unit cost to avoid subsidization within the rate class.

- 3 5. Under Schedule LGS-TOU, the ORS is recommending that the on-peak demand
4 charges be increased by the same percentage as the energy rates, rather than only
5 increasing the demand rates by 50% of the energy rate change. Unlike
6 recommended changes to the other time-of-use schedules, the Company doesn't
7 recommend changes to the summer/non-summer demand rate relationship or on-
8 peak/off-peak price relationships to avoid disproportionate increases on these
9 large customers but does recommend that the demand rates be increased less than
10 other rates. The current demand rates substantially exceed marginal capacity costs
11 and therefore fail to provide ideal price signals, overly stating the benefit realized
12 by shedding load at the customer's peak.

13 **Q. WHAT WAS NAACP, COASTAL CONSERVATION LEAGUE AND**
14 **UPSTATE FOREVER WITNESS HOWAT'S RECOMMENDATION**
15 **REGARDING THE SCHEDULE RES DESIGN?**

- 16 **A.** Witness Howat recommended eliminating the declining block rate design in Rate
17 Schedule RES. He asserts that the declining block structure penalizes low use
18 customers and disincentivizes customers from investing in and participating in energy
19 efficiency programs. The Company proposes a half cent reduction in the tiered
20 energy rate structure in Schedule RES for usage in excess of 800 kWh in the non-
21 summer months. The current declining block rate structure was adopted to incent
22 winter electric heating which causes a customer's usage to exceed 800 kWh thus
23 improving the customer's annual load factor which in turn increases the efficiency

1 of the Company's electric system and lowers its cost per kwh generated. The
2 Company's recommended reduction of the rate differential from one cent to one-
3 half cent per kWh moves in the direction suggested by Witness Howat, but attempts
4 to minimize the impact on electric heating customers as this change is implemented.

5 **AMI - DYNAMIC RATE DESIGNS**

6 **Q. DO YOU AGREE WITH VOTE SOLAR WITNESS BARNES'**
7 **CONTENTION THAT THE COMPANY LACKS A CLEAR PLAN FOR**
8 **DEPLOYING INNOVATIVE DYNAMIC PRICING RATE DESIGNS?**

9 **A.** No. As discussed earlier in my direct testimony, the Company is actively
10 evaluating potential rate designs that can better incent staggering and shifting of
11 usage while we develop the infrastructure required to support such designs.

12 **Q. WHY ARE MORE TIME-BASED RATE DESIGNS APPROPRIATE?**

13 **A.** To the extent practical, tariffs should be designed to provide cost-based price
14 signals that incent economically-efficient electric use. While current designs
15 utilizing a single volumetric charge are efficient in collecting a revenue
16 requirement, they do not communicate changes in the Company's cost of service
17 based upon real time circumstances. While the introduction of both energy and
18 demand rates is an improvement in reflecting cost causation, it still doesn't
19 adequately discourage usage during system peak times. Time-of-use ("TOU")
20 designs were introduced over 30 years ago and improve price signals by
21 recognizing cost differentials that occur throughout each day, but they provide the
22 same price signals during days with both mild and extreme weather. The next
23 generation of rate designs can improve these price signals and reward customers

1 that aid in reducing loads during the peak periods that increase the utility's cost of
2 service. These new designs will more accurately communicate the higher cost
3 incurred to serve load during critical peak periods and offer customer savings if
4 they reduce their usage to help mitigate these costs.

5 **Q. WHAT IS REQUIRED TO SUPPORT THESE NEW INNOVATIVE TIME-**
6 **BASED RATE DESIGNS?**

7 **A.** Three enablers are required to support the introduction of successful innovative
8 time-based rates:

9 (1) Granular meter data that supports pricing that more closely aligns with cost
10 causation – this leg is supported with our Smart Meter Deployment.

11 (2) A robust billing system that supports billing more sophisticated designs –
12 this leg will be well supported with our Customer Connect Deployment.

13 (3) Education and tools to aid customers in understanding tariff price signals
14 and effectively shifting usage – this is still evolving, but is a critical
15 component of a sound rate design.

16 **Q. WHAT IS THE DIFFERENCE BETWEEN THE PRIOR GENERATION OF**
17 **METERS AND METERING AVAILABLE WITH DEPLOYMENT OF**
18 **SMART METER TECHNOLOGY FROM A RATE DESIGN**
19 **PERSPECTIVE?**

20 **A.** The Company's historic metering could identify usage by regular watt-hour meters
21 and meters with pre-defined TOU periods, but lacked the sophistication necessary
22 to offer rates for the majority of customers that varied on a real-time basis. Due to
23 cost considerations, sophisticated metering that identified usage for each interval

1 of the month was only practical for large customers and customers served under
2 hourly pricing or curtailable rate options. Smart meter deployment now allows
3 interval level data to be available for all customers; thereby opening the opportunity
4 to provide better price signals to all customers in Company rate designs.

5 **Q. WHAT RATE DESIGN ACTIVITIES ARE CURRENTLY UNDERWAY TO**
6 **BENEFIT FROM THE AVAILABILITY OF INTERVAL METER DATA?**

7 **A.** While Smart Meter deployment is underway for DE Progress, the Company doesn't
8 yet have a full year of usage history that is necessary to properly evaluate a new
9 rate design. Once meter data becomes available, the first stage of the Company's
10 investigation is to utilize data analytics to assess whether the current rate classes
11 are appropriate from a cost causation perspective. For example, this will allow us
12 to identify whether a single residential rate class continues to be appropriate or if
13 there are distinct differences within the class, from a cost causation perspective,
14 meriting further differentiation. This level of analysis was constrained in the past
15 when interval data was only available for a load research sample of the class
16 population.

17 **Q. WHAT CHANGES ARE NECESSARY TO SUPPORT BILLING**
18 **DIFFERING RATES ON AN INTERVAL BASIS?**

19 **A.** First, the current customer information billing system doesn't support billing at an
20 interval basis. While it supports billing for fixed pre-determined rating periods,
21 such as those offered under a TOU design, it lacks the capability for different rates
22 to apply to usage during specific hours which are identified on a real-time basis to
23 reflect changes in utility cost. Information available to the customer at the meter

1 will also change since pricing won't be isolated to specific pre-determined time-
2 based rate periods. Total usage can continue to be provided on a meter register at
3 the customer's site, but meter data by interval will now need to be provided to
4 customers via a web portal on a one-day lag. This interval level data will aid
5 customers in understanding how they consume electricity and empower them to
6 take steps to better control their consumption.

7 **Q. WILL CUSTOMER CONNECT PROVIDE THE CAPABILITY TO BILL**
8 **TIME-BASED RATE DESIGNS?**

9 **A.** Yes. Customer Connect will offer increased flexibility to bill innovative rate
10 designs and has already been used by other utilities to support critical peak pricing
11 designs.

12 **Q. IN ADDITION TO ACCESSING METER DATA, WHAT OTHER STEPS**
13 **ARE UNDERWAY TO HELP CUSTOMERS BETTER UNDERSTAND**
14 **HOW THEY CAN INFLUENCE THEIR COST FOR ELECTRICITY?**

15 **A.** Two keys necessary to support future rate designs are (1) communication tools and
16 (2) understandable designs. Dynamic rate designs will require routinely
17 communicating changes in the rate for electricity. Fortunately, there are now
18 numerous avenues available to conveniently provide real time rate information to
19 customers, including text messages, automated phone messages and website
20 notifications. Evaluation of effective customer communications is key to a
21 successful dynamic rate program and will be thoroughly investigated prior to
22 seeking approval of future dynamic designs.

1 **Q. WHAT CAN BE DONE TO HELP CUSTOMERS UNDERSTAND AND**
2 **RESPOND TO DYNAMIC RATE DESIGNS?**

3 **A.** The most technically sound rate design won't be successful if customers fail to
4 understand and respond to the price signals. Recent Company research concludes
5 that customers are often confused by electric terminology. Customers are often
6 unclear on how they can influence their usage and are often even confused by
7 standard industry terminology such as Basic Facilities Charge or demand,
8 preferring Administrative Charge and Peak Use. New designs will need to provide
9 clear messages regarding customer expectations to achieve bill savings. The Rate
10 Design team plans to work closely with marketing personnel to improve
11 communications regarding future tariffs. It is hoped that a better understanding of
12 tariff price signals, coupled with increased availability of meter data, will aid
13 customers in understanding the opportunities offered with dynamic designs to save
14 on their electric bills.

15 **Q. CAN NEW RATE DESIGNS BE SUBMITTED BEFORE THESE**
16 **INFRASTRUCTURE IMPROVEMENTS OCCUR?**

17 **A.** Yes, but it would be an inefficient exercise. It would be premature to offer a
18 specific rate design before the infrastructure to support the design is available. The
19 Company is actively pursuing several dynamic pricing pilots in the DE Carolinas'
20 North Carolina jurisdiction and will use this experience in developing future
21 dynamic pricing tariffs in South Carolina. While the pilots only target DE
22 Carolinas' customers, the results will be directly transferable to customers served
23 by DE Progress in South Carolina.

EXCESS DEFERRED INCOME TAX RIDER EDIT

Q. WITNESS BARNES CONTENDS THAT REVENUES ASSOCIATED WITH THE EDIT RIDER SHOULD NOT BE REFUNDED USING AN ENERGY RATE, BUT ON A PERCENT OF BILL BASIS. DO YOU CONCUR?

A. No, an energy rate is more appropriate. Most revenues associated with the EDIT Rider are demand-related; however, refunding them through a demand rate is impractical since many of the Company's tariffs do not bill customers on a demand basis. Updating and refunding EDIT costs as a percentage of the bill adds unnecessary complication and is inconsistent with other annual clause adjustments and should therefore be denied.

REAL TIME PRICING RATES

Q. PLEASE DESCRIBE THE REAL TIME PRICING FOR INCREMENTAL LOAD SCHEDULE LGS-RTP THAT IS AVAILABLE TO THE COMPANY'S LARGE CUSTOMERS.

A. Schedule LGS-RTP is a voluntary rate option that offers customers the opportunity to purchase incremental energy differing from a baseline load at rates that more closely match the Company's incremental cost of providing the kWhs in the given hour. Participants understand that hourly rates will vary throughout the year and therefore offer opportunities to change consumption and benefit from the variable pricing. It is available to nonresidential customers with a contract demand requirement of 1,000 kW or greater and allows usage above or below a baseline amount to be billed at a rate that varies each hour to reflect the Company's marginal cost. Hourly rates are provided to participants on the prior business day. Baseline

1 usage is billed under an applicable standard tariff selected by the customer, while
2 the incremental use is billed at the hourly rate. The hourly rate includes the
3 expected marginal production costs including line losses and other directly-related
4 cost. A Facilities Demand Charge, to recover associated transmission and
5 distribution delivery costs, and Variable Adder also apply to incremental load
6 additions.

7 **Q. HOW ARE REAL TIME PRICING HOURLY RATES UNDER SCHEDULE**
8 **LGS-RTP CALCULATED?**

9 **A.** Hourly rates are calculated based upon the marginal or dispatch cost of the
10 generator that is expected to serve the next kWh of system load based upon all
11 available generating plants. It reflects the change in the Company's fuel cost that
12 is anticipated if the customer decides to exceed or reduce load from their baseline
13 load. The determination of the marginal cost is also consistent with the
14 methodology used by the Company to price opportunity sales into the wholesale
15 market.

16 **Q. IS THE RECOMMENDATION OF SCEUC WITNESS O'DONNELL THAT**
17 **THE HOURLY RATE BE SET AT THE LOWER OF THE COMPANY'S**
18 **MARGINAL COST OR A WHOLESALE MARKET RATE**
19 **APPROPRIATE?**

20 **A.** No. The Schedule LGS-RTP hourly rates are fundamentally based on the DE
21 Progress system production costs; and not designed to represent or be a proxy for
22 market based pricing. The rate is designed to afford customers the opportunity and
23 flexibility to respond directly, through usage, to short term system costs. It is more

1 analogous to a synthetic bi-directional Demand Response product than a market
2 based product. Customers can increase usage as fits their process during periods of
3 low system costs or decrease their usage during periods of higher system costs. DE
4 Progress actively participates in the wholesale energy market to the practical
5 limitations of system reliability, transmission availability, and market liquidity, and
6 all customers benefit in the aggregate from those market purchases. The LGS-RTP
7 product is not a market product and was never intended to provide some customers
8 with optionality beyond the ability of the Company to provide appropriately priced
9 service. Applying hourly rates that are lower than the Company's marginal system
10 cost would result in other customers subsidizing LGS-RTP customers. The current
11 methodology best reflects the Company's expected fuel cost and is therefore the
12 appropriate basis under which to set hourly rates.

13 **IV. CONCLUSION**

14 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

15 **A.** Yes.